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Sang Woon Suh

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EXAMINER

LANIER, BENJAMIN E

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,536	<b>Applicant(s)</b> SUH ET AL.	
	<b>Examiner</b> BENJAMIN E. LANIER	<b>Art Unit</b> 2432	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,7,13-16 and 19-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,13-16 and 19-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 March 2010 has been entered.

### ***Response to Amendment***

2. Applicant's amendment filed 15 March 2010 amends claims 1, 7, 13, 19, 24, 30, and 36. Applicant's amendment has been fully considered and entered.

### ***Response to Arguments***

3. Applicant argues, "Applicants respectfully submit that the content information area 502 in Nagai **is a single area** recorded once at a single location." In response, Examiner would like to point out that the content information 508 is recorded repeatedly and include the number of descramble keys and key list pointers in each recording.

4. Applicant argues, "Because the modulation of the pattern of pits of content data in Timmermans is the decryption key, the key must be necessarily stored across several, reproducible areas of content data. That is, it is impossible to meet the single-area requirements of Nagai with the technology of Timmermans." Applicant has failed to explain why the proposed combination is impossible as alleged. It appears that Applicant is arguing bodily incorporation. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must

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be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

5. The proposed modification of Nagai did not suggest using the cryptographic system of Timmermans. Instead, it was stated that the it would have been obvious to one of ordinary skill in the art at the time the invention was made ***to record the key management information of Nagai in the track wobble of optical disc in order to aid in the digital file recovery process as taught in Timmermans (Col. 7, lines 9-12).***

6. Applicant argues, “Applicants respectfully submit that arguments of teaching away, without external evidence, are routinely accepted as rebuttal of obviousness by combination under § 103.” In response, the Examiner would like to point out that no arguments of teaching away have been presented.

7. Applicant argues, “Applicants respectfully submit that nothing in Nagai discloses or suggests the situation where no keys, and a stored ‘zero’ value for a number of keys, exist.” This argument is not persuasive because when the disc includes unencrypted data, the number of keys stored (Figure 5, 504) would equal zero because there is no encrypted data stored and the disc. If there is no encrypted data stored on the disc, then there are no decryption keys stored on the disc.

8. *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. at 1742, 82 USPQ2d at 1397 (“Common sense teaches...that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle...A person of ordinary skill in also a person of ordinary creativity, not an automaton.”).

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9. Even though, Nagai does not specify the recording of the number “zero” in any of the “number of recorded keys” fields (504 & 508) when the disc does not contain any encrypted data, one skilled in the art would recognize that a common sense reading of Nagai suggests the this scenario would result in the recording of the number “zero” in the “number of recorded keys” fields (504 & 508).

10. Applicant argues, “the Examiner arbitrarily modifies Nagai to omit any keys yet retain key values and store a zero therein when not scrambling.” This argument is not persuasive because recording a “zero” in the “number of recorded keys” fields (504 & 508), when in fact “zero” keys are recorded, in no way constitutes an arbitrary modification. The field itself dictates the number of keys is recorded in this field. Therefore, the field could contain any actual number. None of which would be considered a modification to Nagai in any way.

***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 1, 3, 4, 7, 13-16, 19-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not support the amended limitation that requires the control information unit to be repeatedly recorded in a second data field area in the lead-in area.

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13. The specification discusses that the copy protection information, along with the flag indicating the presence thereof is repeatedly recorded on different areas ([0038]).

***Claim Rejections - 35 USC § 101***

14. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. Claims 1, 3, 4 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The broadest reasonable interpretation of a claim drawn to a computer readable medium typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particular when the specification is silent. *See* MPEP 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. §101 as covering non-statutory subject matter. *See In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not direct to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C §101*, Aug. 24, 2009; p. 2.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 1, 3-4, 7, 13-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai, U.S. Patent No. 6,938,162, in view of Timmermans, U.S. Patent No. 5,737,286, and further in view of Kim, U.S. Patent No. 7,266,074. Referring to claims 1, 7, 13, 15, 24, 30, Nagai discloses an optical disc recording system wherein encrypted content is recorded on a disc such that a key management area for decrypting the content is stored in a lead-in area of the disc (Figure 1, 107 & Col. 16, lines 14-15), which meets the limitation of recording the main data based on the copy protection information. The key management area within the lead-in area includes the number decryption keys recorded in the lead-in area and the actual decryption keys that are used to decrypt the encrypted content (Figure 5 & Col. 12, line 53 - Col. 13, line 7), which meets the limitation of a lead-in storing copy protection indicating information indicating if the computer readable medium contains the copy protection information in the first data field area or if the computer readable medium does not contain the copy protection information in the first data field area, the first data field area being separated from the second data field area, the copy protection information being encryption/decryption key information required for use in encrypting/decrypting the main data, The number of keys is included in the content information area in several locations (Figure 5, 502, 508) along with the key list pointer, which meets the

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limitation of wherein the copy protection indicating information being included within a control information unit including control information about the computer readable medium, the control information unit being repeatedly recorded in a second data filed area in the lead-in area of the computer readable medium, the first data field area being separated from the second data filed area, and the copy protection information being present depending on the indication of the copy protection indicating information. Nagai does not disclose that the key management information is recorded in wobbled pattern by a bi-phased modulation method. Timmermans discloses a digital storage system wherein an encrypted data file is stored on an optical disc with a decryption key stored in the track wobble (Col. 7, lines 9-14), which meets the limitation of the copy protection information being recorded in wobbled patterns, the reproducing includes detecting modulated data and detecting the copy protection information using the modulated data if the recording medium contains copy protection information for use in encrypting/decrypting the main data based on the copy protection indicating information. It would have been obvious to one of ordinary skill in the art at the time the invention was made to record the key management information of Nagai in the track wobble of the optical disc in order to aid in the digital file recovery process as taught in Timmermans (Col. 7, lines 9-12). Timmermans does not specify recording in the wobbled pattern using bi-phased modulation method. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the wobble pattern recording of Timmermans to be performed using bi-phased modulation in order to prevent the wobble signal from being degraded due to cross talk from the wobbles of adjacent tracks as taught by Kim (Col. 9, lines 16-22).



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Referring to claims 3, 4, 14, 16, 25-29, 31-35, Nagai discloses that the key management area within the lead-in area includes the number decryption keys recorded in the lead-in area and the actual decryption keys that are used to decrypt the encrypted content (Figure 5 & Col. 12, line 53 - Col. 13, line 7), which meets the limitation of the copy protection indicating information signifies to reproduce the main data directly without utilizing the copy protection information if the copy protection indicating information indicates the computer readable medium does not contain copy protection information, the copy protection indicating information signifies to reproduce the main data based on the copy protection information if the copy protection indicating information indicates the computer readable medium contains copy protection information, determining whether the copy protection indicating information is active if the copy protection indicating information is detected, reproducing the main data directly if the copy protection indicating information is not active, and detecting the copy protection information and reproducing the main data utilizing the detecting copy protection information if the copy protection indicating information is active, reproducing includes decrypting the main data utilizing the copy protection information, the main data may be recorded utilizing the copy protection information if the recording medium contains copy protection information for use in encrypting/decrypting the data, or the main data may be recorded directly without utilizing the copy protection information, if the recording medium does not contain copy protection information for use in encrypting/decrypting the main data, the recording medium does not contain copy protection information for use in encrypting/decrypting the main data if the copy protection indicating information indicates the recording medium does not contain copy protection information, wherein the recording records the main data without encryption, the

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recording medium does not contain copy protection information for use in encrypting/decrypting the main data if the copy protection indicating information indicates the recording medium contains copy protection information, but a value of the copy protection information indicates that copy protection information is not present, wherein the recording records the main data without encryption, the recording medium contains copy protection information for use in encrypting/decrypting the main data when the copy protection indicating information indicates the recording medium contains copy protection information and a value of the copy protection information indicates that copy protection information is present, wherein the recording records the main data encrypted utilizing the copy protection information, encrypting the main data utilizing the copy protection information proceeds recording of the data, decrypt the main data utilizing the copy protection information.

Referring to claims 19, 36, Nagai discloses an optical disc recording system wherein encrypted content is recorded on a disc such that a key management area for decrypting the content is stored in a lead-in area of the disc (Figure 1, 107 & Col. 16, lines 14-15). The key management area within the lead-in area includes the number decryption keys recorded in the lead-in area and the actual decryption keys that are used to decrypt the encrypted content (Figure 5 & Col. 12, line 53 - Col. 13, line 7), which meets the limitation of detecting the copy protection indicating information indicating if the recording medium contains the copy protection information in the first data field area or if the recording medium does not contain the copy protection information in the first data field area, the copy protection indicating information and the copy protection information being recorded, the copy protection information being encryption/decryption key information required for use in encryption/decrypting the main data,

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The number of keys is included in the content information area in several locations (Figure 5, 502 & 508) along with the key list pointer, which meets the limitation of the copy protection indicating information being included within a control information unit including control information about the recording medium, the control information unit being repeatedly recorded in a second data field area in a lead-in area of the recording medium, the first data field area being separated from the second data field area, and the copy protection information is present depending on the indication of the copy protection indicating information. The decryption keys are used to access encrypted data on the disc (Figure 11), which meets the limitation of playing the main data utilizing the copy protection information if the recording medium contains copy protection information for use in encrypting/decrypting the main data, or playing the main data directly without utilizing the copy protection information, if the recording medium does not contain copy protection information for use in decrypting the main data, based on the detected copy protection indicating information, a signal processor configured to process the main data utilizing the copy protection information if the recording medium contains copy protection information for use in encrypting/decrypting the main data, or is configured to process the main data directly without utilizing the copy protection information, if the recording medium does not contain copy protection information for use in decrypting the main data based on the copy protection indicating information. Nagai does not disclose that the key management information is recorded in wobbled pattern by a bi-phased modulation method. Timmermans discloses a digital storage system wherein an encrypted data file is stored on an optical disc with a decryption key stored in the track wobble (Col. 7, lines 9-14), which meets the limitation of the copy protection information being recorded in wobbled patterns. It would have been obvious to

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one of ordinary skill in the art at the time the invention was made to record the key management information of Nagai in the track wobble of the optical disc in order to aid in the digital file recovery process as taught in Timmermans (Col. 7, lines 9-12). Timmermans does not specify recording in the wobbled pattern using bi-phased modulation method. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the wobble pattern recording of Timmermans to be performed using bi-phased modulation in order to prevent the wobble signal from being degraded due to cross talk from the wobbles of adjacent tracks as taught by Kim (Col. 9, lines 16-22).

Referring to claims 20-22, 37-39, Nagai discloses that the key management area within the lead-in area includes the number decryption keys recorded in the lead-in area and the actual decryption keys that are used to decrypt the encrypted content (Figure 5 & Col. 12, line 53 - Col. 13, line 7), which meets the limitation of the recording medium does not contain copy protection information for use in encrypting/decrypting the main data if the copy protection indicating information indicates the recording medium does not contain copy protection information, the recording medium does not contain copy protection information for use in encrypting/decrypting the main data if the copy protection indicating information indicates the recording medium contains copy protection information, but a value of the copy protection information indicates that copy protection information is not present, the recording medium contains copy protection information for use in encrypting/decrypting the main data when the copy protection indicating information indicates the recording medium contains copy protection information and a value of the copy protection information indicates that copy protection information is present.

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Referring to claims 23, 40, Nagai discloses that the decryption keys are used to access encrypted data on the disc (Figure 11), which meets the limitation of said playing includes decrypting the main data utilizing the copy protection information.

***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN E. LANIER whose telephone number is (571)272-3805. The examiner can normally be reached on M-Th 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Benjamin E Lanier/  
Primary Examiner, Art Unit 2432